

REMARKS

Claims 3 and 13-18 are now pending in the application. By this Amendment, claims 3 and 13-18 have been amended. Claim 17 has been amended into independent form. Support for the amendment to claim 17 is found at least at claims 1, 5, and 6. Claims 3, 13-16, and 18 have been amended to be commensurate with the amendment to claim 17, for consistency, and to change the claim dependency. Claims 1, 5-9, 11, and 12 have been canceled without prejudice or disclaimer. No new matter has been added.

Claims 1, 3, 7-9, 11-16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hoyt et al. (EP 0409093) (“Hoyt”), as evidenced by Lombardi et al. (US Patent No. 3,663,511) (“Lombardi”).

By this Amendment, claim 17 has been amended into independent form and the dependency of claims 3 and 13-16 has been changed to depend, directly or indirectly, from claim 17. Claims 1, 7-9, 11, and 12 have been canceled without prejudice or disclaimer.

As appreciated by the Examiner, Hoyt and Lombardi fail to suggest features corresponding to the claim recitations of claim 17 or process claims 5 and 6. Accordingly, this rejection has been rendered moot by the amendments to the claims herein.

Claims 5-6 and 17-18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hoyt, as evidenced by Lombardi, in view of Brubaker (US Patent No. 2,264,298) (“Brubaker”).

As appreciated by the Examiner, Hoyt and Lombardi fail to suggest features that can reasonably be considered to correspond to providing an unbranched alkanemonocarboxylic acid. However, the Office Action relies on Lombardi as evidence that using the epsilon-caprolactone suggested in Hoyt results in a polyamide that has the same structure as a polyamide obtained by using 6-hydroxycaproic acid.

Applicants note that the instant process claims are patentably distinguishable from the applied citations because Hoyt fails to suggest the combination of all of the features. What is more, by using an unbranched alkanemonocarboxylic acid during the polymerization, the instant

process releases water upon a condensation reaction between the unbranched alkanemonocarboxylic acid and a terminal amine group of the polyamide. Without wishing to be bound by theory, Applicants note that the release of water to maintain or increase the melt volume rate of the polyamide, which helps avoiding increased cycle times during injection molding.

The Office Action relies on Brubaker for suggesting the formation of a hydroxyl terminated polyamide, which is prepared by the reaction of caprolactam and a hydroxyl-group containing amine, the latter being provided as a stabilizer. Thus, the Office Action concludes that it would have been obvious to modify the process of Hoyt by including caprolactone or hydroxycaproic acid.

Applicants note that the hydroxyl-group containing amines are structurally different from an unbranched alkanemonocarboxylic acid, as claimed. Thus, Applicants respectfully disagree that a skilled artisan would have been motivated by Brubaker to include 6-hydroxycaproic acid in the process of Hoyt to optimize molecular weight because 6-hydroxycaproic acid is not even suggested in Brubaker. What is more, Hoyt already suggests the use of epsilon-caprolactones to reduce the affinity to acid dyes. Accordingly, a skilled artisan would assume that if epsilon-caprolactones optimize the molecular weight of polyamides, as asserted in the Office Action, the polyamides of Hoyt are already optimized because an epsilon-caprolactone is already included.

By this Amendment, the pending claims are drawn to the process. Thus, Applicants respectfully submit that the claimed subject matter is patentably distinguishable for at least the reason that the applied citations fail to suggest all of the features of independent claim 17.

Moreover, as noted at page 1, lines 32-36, of Applicants' disclosure, it is one remarkable advantage of the claimed process that the polyamides have a higher melt volume flow rate compared to conventionally prepared, chain-regulated polyamides, while the relative viscosity remains the same. A skilled artisan had no reasonable expectation of success that modifying Hoyt based on Brubaker, which suggest increasing the affinity of polyamide fibers to certain dyes, would have achieved this remarkable improvement in the production of polyamides.

What is more, Brubaker suggests, at page 2, col. 2, lines 59-76, that the use of the 1,2- and 1,3-hydroxyamines results in the formation of oxazolines and oxazines, respectively, when reacted with a terminal carboxyl-group of a polyamine. The reactive double-bond of the oxazolines and oxazines is believed to cause the increased affinity towards certain dyes.

However, a skilled artisan would not use an unbranched alkanemonocarboxylic acid instead of an hydroxyamine, or an epsilon-caprolactone as suggested in Hoyt, because the reaction of the unbranched alkanemonocarboxylic acid with a polyamine does not result in the formation of oxazolines and oxazines.

Claims 3, 13-16, and 18 are in condition for allowance for at least their respective dependence on an allowable claim 17, as well as for the separately patentable subject matter that each of these claims recites.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 22-0185, under Order No. 12810-00072-US from which the undersigned is authorized to draw.

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Respectfully submitted,

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